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Missouriensis is the official publication of the Missouri Native Plant Society. Founded in 1979 as a non-profit corporation, the Society is devoted to the conservation and study of the plants growing wild in Missouri, to the education of the public about the significance of the native flora and its habitat, and to the publication of related information.

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MINUTES OF THE BOARD MEETING

MISSOURI NATIVE PLANT SOCIETY
February 4, 1983 Board Meeting
Home of Karen Haller, 618 Spring Meadows Drive
Ballwin, Missouri 63011

CALL TO ORDER. At 8:45 P.M., President Paul Redfearn called to order the eighteen assembled members.

ATTENDANCE. Board members present: Melvin Conrad, Karen S. Haller, John Karel, Robert Mohlenbrock, Paul Nelson, Ken Olson, Paul Redfearn, Ginny Wallace, Wally Weber, and Jim Henry Wilson. Other members present: Arthur Christ, Albert J. Haller, Sylvia Hein, Don Kurz, John Molyneaux, Alice Nightingale, Rick Thom and Mervin Wallace.

MINUTES. Minutes of the September 11, 1982 meeting were approved as published in Missouriensis.

TREASURER'S REPORT. John Karel reported deposits of $3,470.64, outstanding expenses of $533.36 and a balance of $2,937.28. Bills will be paid as quickly as possible following the necessary paperwork involved in opening an account with the Jefferson Bank in Jefferson City. John Karel, Karen S. Haller, Paul Redfearn and Paul Nelson are to be listed with the bank as persons eligible to sign the checks. What is to be the policy regarding receipts for dues payments? Is it a necessary evil? If so, on MONPS stationary? And, what is the grace period for non-payment? Does the Missouriensis continue to be sent? Which membership list should be used — the one kept by the Membership Committee Chariman or the one kept by the Treasurer? Should we begin an annual billing procedure? John Karel, having listened to numerous opinions on each question, will ponder the problems and suggest his solutions at the next meeting.

OLD BUSINESS. Joint Meeting of the Missouri Prairie Foundation and Missouri Native Plant Society. Wally Weber reported tremendous interest for tomorrow's meeting as indicated by the luncheon reservations. An unexpected charge of $365.00 for use of the Missouri Botanical Garden facilities necessitated the Board's approval as to the percentage of each society's share of payment. It was decided to approve payment up to 50%, depending upon Wally Weber's investigations and consultations with Owen Sexton (M.P.F.). Many thanks are extended to Wally Weber for his hard work in planning this meeting.

NEW BUSINESS. April 23, 24 Meeting — to be held at Alley Springs State Park and to consist primarily of field trips. Paul Redfearn promises more detailed information to come.* June 4, in Kirksville, is the date for our Annual Meeting, at which time incoming officers assume responsibility for the business meeting. Melvin Conrad and Northeast Missouri State host this meeting.

WILDFLOWER WORKSHOP. Federated Garden Clubs of Missouri, Inc. Ginny Wallace is coordinating MONPS activities for this workshop April 18 at Tantara. As co-sponsor, we are providing these speakers and subjects: History and Origin of the Ozark Flora - Dr. Redfearn, Pre-settlement Wildflower Habitats of Missouri - Paul Nelson and Preserving and Protecting our Native Flora - Ginny Wallace.

FIELD TRIPS. Ginny Wallace, as Field Trip Chairman, suggested regional day field trips to Missouri Natural areas. These are to be led by persons living in the general area. One or two will be planned by our next meeting.

WILDFLOWER SEED EXCHANGE. Karen S. Haller read from Patrick De Lozier's correspondence regarding the suggestion of a wildflower seed exchange program. After much discussion regarding the merits and pitfalls of such a program, it was decided by motion that "the MONPS sponsor a seed exchange for the purpose of exchanging seeds for gardens and that its director be Patrick De Lozier".

ENDANGERED SPECIES. Jim Henry Wilson is making inquiries regarding the possible amending of Missouri's endangered species statute to include plants.

OTHER. Various letters of request were read and delegated to the proper channels. March 17 - Russell Peterson speaks in Springfield regarding environmental problems. Paul Redfearn extended an invitation to all. A request for back issues of Missouriensis is being filled by Wally Weber and Paul Redfearn.

ADJOURNMENT. By 10:15 P.M., all business having been efficiently handled, the meeting adjourned.

Respectfully submitted,
Karen S. Haller
Secretary

*See notice at end of this issue.

WHAT YOU MISSED

The weather forecast for Saturday, February 5, in St. Louis was not good: 80% chance for heavy snow by afternoon. In spite of such warnings, a large and enthusiastic crowd gathered in the Missouri Botanical Garden's new Ridgeway Auditorium at 9:30 AM for the beginning of a fascinating day. The occasion was a joint meeting of the Missouri Prairie Foundation and the Missouri Native Plant Society,

and the response by members of both groups surprised even the most optimistic organizers; 196 people had preregistered and that figure rose to well over 200 as others arrived to register that morning. In his opening remarks, Dr. Owen Sexton, coordinator of the meeting and a professor of Biology at Washington University, outlined the day's schedule and mentioned the goals which had guided his committee as it had planned the program: 1) to increase participants' general knowledge of prairies as natural ecosystems; 2) to introduce participants to prairies in areas other than Missouri (specifically Kansas and Texas); and, 3) to demonstrate the wealth of biological research at the university level which occurs in and around the St. Louis area. To accomplish this third goal, speakers were invited from University of Missouri St. Louis, St. Louis University, and Washington University, as well as Southern Illinois University at Carbondale.

The morning's first speaker, Mary Kay Solecki, with the Natural History Section of the Missouri Department of Conservation, discussed the work she and Gary Reese are doing to identify existing prairies in the State. She showed slides of color aerial photographs and explained how such photographs are used as visual clues to locations of possible prairies. Investigators save valuable time by using such preliminary aerial surveys, making later field studies more efficient. She and Reese have been working primarily in the Missouri counties of Barton, Bates, Henry, St. Clair, and Vernon, and have to date positively identified 40,000 acres of dry upland prairie and 1,000 acres of wet lowland prairie. At present, much of this 41,000 acres is privately owned. Protection of existing prairie lands is, of course, of primary interest to conservationists, and Missouri presently has 37 public prairies, encompassing 10,339 acres, all of which are owned by one of the five groups: Missouri Department of Conservation, the Nature Conservancy, Missouri Prairie Foundation, Missouri Department of Natural Resources, and the University of Missouri. As a reflection of presettlement conditions, a majority of these are in the southwest part of the state and are of the dry upland variety. Ms. Solecki stressed the urgency of protecting more natural quality prairie, particularly that of the wet, lowland variety.

The audience was next treated to an in-depth look at a Kansas Prairie dog town, as seen through the eyes of a persistent observer, Dr. Zuleyma Halpin, professor of Biology at UMSL. Dr. Halpin explained how she trapped the animals, marked them with Lady Clairol hair dye for identification, and then mapped their movements for three summers. She was able to identify distinct coteries (family units), consisting, on the average, of 3-4 females, 1-2 males, and several juveniles, and was able to construct precise maps of coterie location (home territory) for the whole town. From one summer to the next, she noticed distinct changes in the map: certain coteries became larger, others smaller, some annexed adjoining areas, one coterie even split into two small

groups by an expanding rival group. Aggression in prairie dog towns seems to be limited to that between coteries rather than within them. Dr. Halpin's research was done on a prairie in Stafford County, Kansas which is protected as a National Wildlife Refuge; such protection is not absolute, though, as her study was unfortunately terminated when widespread poaching in January 1981 caused catastrophic damage to the town.

Next, after welcoming remarks by Andy Runge, President of the Missouri Prairie Foundation, Paul Redfearn, President of MoNPS, and Nancy Morin, Administrative Curator of the Missouri Botanical Garden Herbarium, Dr. Joseph Leverich, from the Biology Department at St. Louis University, spoke on "Disturbance Can Be Good for Annual Prairie Plants." In his interesting presentation, Dr. Leverich discussed research he had done on populations of Phlox drummondii on Texas prairies. Prior to the study, he had expected the species to exhibit a survivorship pattern characteristic of weeds: very large numbers of very young individuals with a drastic drop in population size as age increases. Instead, he found an unweed-like pattern (similar to that found in humans), in which population size remains fairly constant through several age classes until a drastic drop in numbers is noticed among the oldest plants. In all 200 sites he examined, gopher activy was present, resulting in conditions in which a certain percentage of the soil is always disturbed, standing, as it were, ready for Phlox seed germination. Phlox drummondii doesn't produce many seeds and it doesn't spend much energy on disposal mechanisms; it doesn't need to! Life on a gopher-abundant Texas prairie can be cozy for plants which take advantage of these unique surroundings, and Dr. Leverich found many other plants in the community with similar life-history patterns.

In the next talk, Dr. Barbara Schaal of Washington University gave a fascinating account of her research on the genetic structures of long-lived prairie plants. She chose an Illinois prairie as her study site and concentrated her efforts on Liatris slendrasia, a typical prairie perennial. L. slendrasia is self-incompatible and thus must be pollinated by pollinators coming from plants with different genotypes. Consequently, it is possible to study gene flow patterns by tracking the movement of the bees and butterflies which visit L. slendrasia. To study such movements, Dr. Schaal set up an artificial population of Liatris in the midst of the prairie, each plant "growing" from a precisely placed beer bottle! With such an arrangement, she was able to vary the density of her population and also to record precisely the patterns of pollinators. What she found was that crossing was not random over the whole population, but rather much more likely to occur between close neighbors. Biochemical analysis of genotypes confirmed this finding: plants growing close together tended to be genetically similar. Many such long-lived perennials, often living for several hundred years through reproductive cloning, are found in prairie communities, and the opportunities for genetic study are rich. One more reason to save our prairies!

After a lunch break, the group convened again for a delightful glimpse at the question, Where Have All the Wildflowers Gone? Such is the title of a book to be published by MacMillan in April of this year, and its author, Dr. Robert Mohlenbrock of SIU, Carbondale, offered a tantalizing look at some of the fascinating stories the book contains. One was of Sadie Price, an indefatigable 18th century botanist from Kentucky, whose diary describes her arduous search and eventual discovery of Filmy Fern. Behind these stories, though, appears the book's urgent message that rare plants are disappearing at an alarming rate. At present, the federal Rare and Endangered Species List contains only 67 species; Dr. Mohlenbrock suggests that at least 53 others should be included. No prairie species appear on the present list, although Mead's Milkweed is being considered. As a fitting conclusion to a tremendously enjoyable and stimulating day of formal program, Dr. Mohlenbrock bravely offered a vocal rendition of his parody of Gilbert & Sullivan's "I've Got a Little List". Fortunately for those not present, this will appear in the preface to his book, but all who heard it (and who accorded him a standing ovation), would agree that the written version just won't be the same!

With these five excellent presentations under their belts, participants finished the day in one of four workshops: Fern Identification, Prairie Establishment, Identification of Woody Plants in Winter Condition, and Identification of Prairie Plants. Each had been carefully planned and offered those attending an in-depth view of the area. From the conversations overheard in the lobby at the conclusion of the day, it can be safely said that if you missed this day, you missed one of the most fascinating programs our group has had the privilege of being a part of. Maybe we should make such a prairie day an annual event. If so, can we see you next year?

INFORMATION REQUESTED

Dr. Peter Raven and his associates at the Missouri Botanical Garden are very eager to locate populations of Peplis diandra (Didiplis diandra, the water Purslane; Lythraceae) for embryological studies. According to Steyermark (Flora, p. 1088), Peplis is scattered but not uncommon in Missouri, growing in ponds, ditches, etc. It's a completely submerged aquatic plant, somewhat similar in appearance to the more common Rotala. If you know of any populations of this plant, or if you find it this spring or summer (it flowers May-October), please contact Dr. Peter Hoch at MBG (314 577-5175 or 5111, collect if out-state) with any information about localities.

SCLEROCHLOA DURA

Sclerochloa dura (L.) Beauv. (Gramineae) in Missouri

Douglas Ladd
Illustrated by Paul Nelson
Missouri Dept. of Natural Resources
Jefferson City, Mo. 65102

In recent years, a weedy grass has been collected at several localities in Missouri, and shows the potential to become widely distributed throughout the state. Sclerochloa dura (L.) Beauv. is a diminutive vernal annual grass native to southern Europe. Hitchcock and Chase (1950) record it as an introduced weed in dry sandy or gravelly sites in Colorado, Idaho, New York, Oregon, Texas, Utah, and Washington. Hitchcock and Cronquist (1974) state that it is "well established as a weed" in eastern Oregon and Washington and southwestern Idaho; Correll and Johnston (1970) record it as rare in "disturbed areas near roads" in Texas. The plant has also been collected in Kansas recently.

In Missouri, S. dura was first collected by Reverend James Sullivan in St. Louis County in 1978. In 1981 a colony was discovered in shaded xeric chert gravel in a campground at Bennett Spring State Park. Here the plants are a locally dominant component of the vegetation, and show evidence of having been well-established and spreading for many years. A large colony was discovered in Roaring River State Park in 1982; mats of this plant line hundreds of meters of gravel roadway in the park, as well as occurring along the hatchery pools and in mowed weedy turf throughout the campground. From the size, extent, and autecology of this population, it is evident that the grass has been established and spreading in the park for many years.

The following description is based on the Missouri material. Low spreading to ascending soft-stemmed annuals from a tuft of fibrous roots; culms 3-8(13) cm long, freely branched at base; leaves to 3 mm wide, the lower reduced, the upper with blades to 5 cm; blades with well-defined midribs, usually minutely spiculate along the margins in the distal third, tapering to a bluntly pointed inrolled tip. Sheaths overlapping, the upper broadened and partially enclosing the developing inflorescense; ligules membranaceous, deltoid,

irregularly undulate-lacerate, 1-1.5 mm. Racemes terminal, dense, spikelike, to 4 cm long and 1.5 cm broad, eventually becoming more or less exsert, exceeded by the leaves. Spikelets subsessile, secund in essentially two rows on one side of the slightly zigzag rachis, 5-10 mm long, borne singly in the upper portions of the raceme, often in clustered glomerules of 3-5 near the base of the raceme, these falling as a unit. Spikelets 3-4 flowered, the uppermost floret often sterile and reduced (rarely, in spikelets with 4 fertile flowers, a reduced scale-like sterile fifth lemma may be present). Glumes unequal, compressed, broad, obtuse or slightly notched at apex, with a broad hyaline fringe; the first 3-nerved, 2.5-3 mm long; the second (5)7-nerved, 4-5 mm long. First lemma 5-6 mm long, minutely scabrous on the prominent midnerve, with 5 parallel nerves in the distal half, these becoming obscure in the somewhat indurated proximal half; upper lemmas similar but progressively reduced. Paleas narrowly lanceolate, 3-5 mm long, ciliate on keels; stigmas white, fringed with crooked hairs; anthers yellow, to 1.1 mm long, on thin translucent filaments ca. 3 mm long; fruit ca. 2.5 mm long, broadest above base.

At Bennett Spring State Park, S. dura has been observed in anthesis from April 11 to May 8. The plants are dead by late May, and disappear by summer.

S. dura occurs in severely disturbed, usually compacted, well-drained to xeric sandy or gravelly sites where competition from other vegetation has been reduced or eliminated. It occurs in both open and shaded areas. Matricaria matricarioides is a consistent associate in exposed sites with severe substrate compaction; sometimes this and S. dura are the only vascular taxa present in such areas. Other recorded associates include Androsace occidentalis, Draba brachycarpa, Holosteum umbellatum, Lepidium virginicum, Poa annua, and Veronica arvensis. Typical habitats include compacted road shoulders, sandy or gravelly waste ground such as parking areas, and heavily compacted sites in campgrounds and playgrounds. It is almost certain that this inconspicuous grass already occurs in or will spread to other sites in Missouri and bordering states. However, its potential threat as a noxious weed is probably limited by its apparent requirement for severe site disturbance.

Missouri Specimens:
BARRY COUNTY: Roaring River State Park, Douglas Ladd 6346, 28 May 1982 (DNR, SMS).
DALLAS COUNTY: Bennett Spring State Park, Douglas Ladd 4836, 19 April 1981 (DNR).

LACLEDE COUNTY: near Brice, Douglas Ladd 6239, 5 May 1982 (MOR, SMS).
ST. LOUIS COUNTY: St. Louis State School and Hospital, Rev. James Sullivan, 11 May 1978 (MO).

Sclerochloa dura. A. plant, B. spikelet, C. fruit

Acknowledgment: special thanks to Bruce Schuette for his assistance with this work.

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Hitchcock, A. S. and A. Chase. 1950. Manual of the Grasses of the United States. U. S. Dept. Agriculture Misc. Pub No. 200.

Hitchcock, C. L. and A. Cronquist. 1974. Flora of the Pacific Northwest, second corrected printing. University of Washington Press, Seattle.

PYRAMID STATE PARK

A COAL SURFACE MINE 50 YEARS LATER

Jay Raveill
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A coal surface (or strip) mine is an awesome sight. A giant power shovel exposes the coal seam by removing the soil and previously fractured bedrock from above the coal. This overburden material is piled to one side, away from the direction of mining. The now exposed coal is removed with a smaller shovel and the resultant trench filled with overburden with the next pass of the giant shovel. These ridges and valleys, called spoil banks, are composed of a heterogeneous mixture of fragments of all the different layers of bedrock in the overburden, as well as the former soil. Before the enactment of reclamation laws, the spoils were simply left as they fell; often no attempt was made to revegetate the desolate landscape.

Soon after mining, a few hardy plants colonize the barren spoil banks. The plants gradually spread from the small isolated pockets where they first became established to carpet the ground with vegetation (barring such problems as high acidity or mineral toxicity). With each passing year more species invade, species already established become more abundant, and young trees grow; succession proceeds.

One of the oldest and most thoroughly studied coal surface mines is now included in Pyramid State Park, Perry County, Illinois. The mining took place between 1932 and 1950. In the mid-50's the coal company gave 900+ acres of mine spoils to Southern Illinois University as a research area. Numerous workers have since conducted studies on these and adjacent spoils. The plant life was described by several workers in the mid to late 50's. The vegetation was sparse on the youngest spoils, but dense on the rest. The percentage of annuals, perennials, and woody plants was found to be remarkably uniform across all spoilages. The only significant difference noted was the larger trees on the older spoils.

The current vegetation is also uniform across the different age spoils, again the only great difference being the smaller trees of the younger spoils. The most conspicuous trees on all age spoils are the towering Cottonwoods. Below the Cottonwoods is an often closed canopy composed of numerous species including Sycamore, Box Elder, Elm, Hackberry, Persimmon, Shingle Oak, Sassafras, River Birch, Black Cherry, Pin Oak, and Silver Maple.

The shrubby layer is well represented in areas that are not too densely shaded. The most abundant "shrub" is Poison Ivy. It frequently occurs in dense upright stands, at some locations reaching six feet in height. Other species in the shrub layer include Rough-leaved and Flowering Dogwoods, Eastern Wahoo, Elderberry, Raspberry, Wild and Multiflora Roses, Bladdernut, and small individuals of the overstory species.

The frequent herbaceous species are much too numerous to be mentioned individually, but include most of the "old field" species of southern Illinois. White and Yellow Sweet Clover and Smooth Brome Grass were among the few species that occurred in large, nearly pure colonies. Among the species less expected to be found on the mine spoils were Ammannia auriculata, Callitriche terrestris, Samolus parviflorus, Aplectrum hyemale, Spiranthes gracilis, S. cernua, S. ovalis, Centunculus minimus, Lobelia cardinalis, Poa sylvestris, Ophioglossum vulgatum, and Smilacena racemosa.

Pine and hardwood plantations, many dating back 40 years, are of special interest. The large pine plantations are mature, but their future may be limited by disease. Oaks are the most important of the plantation hardwoods. Other planted hardwoods include Black Locust, Sweet Gum, Catalpa, Tree Of Heaven, Osage Orange, and Silver Maple. Many of the minor hardwoods are not reseeding and so will be of little importance in the future forest of Pyramid.

The time required for mine spoils to return to climax vegetation, in this case oak-hickory forest, is the subject of much speculation. From observations at Pyramid, the only definitive statement is that fifty years is inadequate time for the reestablishment of climax vegetation. The present dominant trees are those that first colonized the spoils. However, some succession can be seen in that Cottonwoods, Sycamores, and Pines are not regenerating. When the current dominant trees die they will be replaced by a mixed forest composed primarily of the numerous species mentioned previously. Many seedlings and saplings of these species are found and therefore they will be an important component of the forest of Pyramid for some time to come. Some seedlings and saplings of climax species are present, especially in areas adjacent to unmined land. However, it is not yet possible to speculate on when the climax species will dominate.

Pyramid has offered a unique opportunity to study the colonization and succession of vegetation of a formerly devastated area. The studies done several decades ago described the colonizing plants on the then 5 to 25 year old spoils. The author has since 1981 examined the now much different vegetation and documented the occurrence of 467 vascular plant species growing on this 2000 acre block of spoils. As time passes, the vegetation will continue to change and if left undisturbed will, at least theoretically, proceed to the local climax vegetation. The time required for the forest of Pyramid to be dominated by oaks and hickories will be determined by future workers only after decades or even centuries of further succession.

STAMINA

Catherine Filla St.Louis, Mo.

Webster defines "stamina" (Latin plural of stamen) as "warp, thread of life spun by the Fates". Stamina is a quality that collecting botanists need, and Ernest Jesse Palmer had a full measure of stamina. A mentor of Dr. Julian Steyermark, who dedicated his "The Flora of Missouri" to him, Palmer is recognized as an authority of Crataegus, the Hawthorn.

Born in Leicester, England in 1875, Ernest Jesse Palmer came to this country when he was three years old. His family settled in Webb City, Missouri by 1889, where young Ernest studied natural phenomena. He had an active curious mind and became caught up in studying and collecting fossils of plants and animals. Unable to finish high school because of family illness, he still pursued studies in the natural sciences as well as English literature, mathematics, economics, and poetry.

In his adult life he became associated with the Missouri Botanical Garden and the Arnold Arboretum; it was at this latter institution that he became a regular staff member and worked there until he retired in 1948. He was a tireless collector and when not collecting, he was planning his next trip or working on collected specimens. He collected with Steyermark for two weeks one summer, and he hoped to collect in all the states of the Union. Palmer did not spend much time making a comfortable home for himself. Indeed, he had little time for this with his collecting activities. So it came as a surprise to his friends when at the age of 55 he married Elizabeth McDougal, a bacteriologist at the Massachusetts State Laboratory. They had three children, Ernest, Grace, and Theodore.

How does a man manage to accomplish so much in a lifetime? He was a man dedicated to a life that kept him outdoors much of the time. He had a physique that defied age, slender and wiry, and could outlast most companions on a collecting trip. When he was 80, he told a friend that he felt as strong in mind and body as he did at 50. He could easily walk 10 miles a day - and could climb a good-sized tree if there was anything at the top that he wanted badly enough. He loved poetry and song and the harmony and imagery of language, and he would scribble scraps of poetry at odd moments. Palmer's collected work was published in 1958 under the title, Gathered Leaves Green, Gold and Sere. In the introduction, this many-talented man wrote, "My reason for having written poetry is a simple and personal one: I couldn't help it....The mystery of life and of human destiny, of time, eternity and the universe, has always enthralled me, as it has all poets and thinkers through the ages."

And so Palmer's poetic subject matter is diverse indeed. To readers of Missouriensis, however, his poem "The Botanist" will have special appeal:

THE BOTANIST

by

Ernest J. Palmer

When lengthening days with genial rays
  Make green the waking earth,
With vasculum and trowel armed,
  In search of crops that none have farmed,
    The gentle botanist goes forth.

It is not gold or gems he seeks,
  But other sort of treasure.
Sweat and fatigue and rocks and mire
  And gnats and ticks and tangled briar,
    All these he deems a pleasure,

If only he can find some tree,
  Some shrub or flower or grass or weed
That's rare or new or strange,
  Or growing somewhat out of range,
    He has reward indeed.

He starts, perchance, with searching glance
  Across the bounding prairie,
Where violets and spring beauties are
  With bluets and cowslips spread afar
    The grassy plain to vary.

Then next he may the woods survey
  For various sorts of shrubs or trees:
Oak, hickory, chinquapin or ash,
  Dogwood, red-bud or sassafrass,
    Or woodland flowers that please.

He scales the cliff that he may lift
  Some fern or climber rare;
Or deep into the swamp he'll wade,
  Of ooze and stickers unafraid,
    If orchids flourish there.

If Fortune smile on him the while,
  He may with fits conniption
Come on some species yet unknown,
  That he may name and claim his own,
    With Latinized description.

But never think that he would link
  A common name to any weed;
They're cockleburs to you--he knows 'em
  As Xanthium commune or Xanthium speciosum.
    More dignified, indeed!

A common grass that you might pass
  As foxtail, timothy or crab,
To him's a species of Setaria
  Or Phleum or a Digitaria;
    And so they're labeled in the lab.

He knows Cotinus coggigeria
  From C. americana;
His well known friends are Zannichellia,
  Saururus, Kickxia or Ruellia,
    Or Yucca yucatana.

He knows by heart the every part
  Of Mendel's law and th' mutants ways;
He talks of chromosomes and genes,
  And counts 'em both in corn and beans--
    Phaceolus and Zea Mays.

But though you smile at him the while,
  He follows paths that few have trod,
Each step revealing more and more
  A world of beauty and of law,
    Of Nature and her God.

*Sic

SEE YOU AT ALLEY SPRINGS, APRIL 22-23!

DODECATHEON AMETHYSTINUM

Steve Orzell 2236 Willow Ridge Lane
Chesterfield, MO 63017

Jewelled Shooting Star was first described as Dodecatheon meadia L. var. amethystinum by Fassett (1929). After three years of observation of transplanted specimens, Fassett (1931) reevaluated the status of the plant to species rank, D. amethystinum (Fassett) Fassett.

According to Fassett (1931 & 1944), D. amethystinum and D. meadia are taxonomically distinct, the most reliable character being the pale brownish or yellowish papery thin capsule walls (35-120u thick) in D. amethystinum as compared to the reddish brown, subligneous capsule walls (130-340u thick) in D. meadia. In addition, mature capsules of D. meadia are cylindric to cylindric-ovoid, usually less than 3X as long as broad, whereas D. amethystinum capsules tend to be cylindric-oblongoid, usually at least 3X as long as broad. However, this latter character is difficult to ascertain in the field.

When capsules have not matured one may rely on the leaf bases of D. meadia which tend to be reddish tinged, whereas D. amethystinum rarely yields leaf bases suffused with red. This character holds for pressed specimens and has been linked to possible enzymatic activity which oxidizes upon drying (Fassett, 1944). But beware: D. meadia f. sedens and var. brachycarpum f. pallidum, both native in Missouri, lack red tinged leaf bases. Also, Steyermark (1940) reported the upper leaf surfaces are pale bluish green or glaucous in contrast to the yellowish green of D. meadia.

Floral distinctions (Fassett, 1944) are as follows: D. amethystinum calyx lobes are 2-5mm long, in D. meadia 3-6.5mm; anthers are 5.0-7.5mm in D. amethystinum and 6.5-9.5mm in D. meadia.

D. meadia is generally a stout tall plant (2.5-6.0dm) with 6-30 flowers per umbel, whereas D. amethystinum is a more delicate plant, (2.0-3.5dm) in stature, with 2-11 (-18) flowers per umbel. Lastly, D. amethystinum flowers earlier than D. meadia and is confined to outcrops on

north-facing bluffs, whereas D. meadia thrives in meadows, prairies, railroad rights-of-way, and lightly wooded tracts.

The first Missouri collections were made by Rev. John Davis in Hannibal (Steyermark, 1940). I was unable to locate the Davis specimen at the Missouri Botanical Garden. Steyermark visited this Hannibal site with Dr. Paul C. Standley and reported (1940) "several bluffs along the Mississippi River were explored including Riverview Park and Lover's Leap, but only after a diligent search on the bluffs between Lover's Leap and Riverside Cemetery was the writer able to locate the plants, of which only two were seen." On August 8, 1981, I failed to locate any plants at the site, and Jim Shaw (Hannibal botanist) claims that he had never known this site to produce the Shooting Star. Nonetheless there is a specimen attesting the plants former occurrence: shaded limestone ledges on bluffs along the Mississippi River, between Lover's Leap and Riverside Cemetery, T56N, R4W, sect 27, 1/2 mile southeast of Hannibal, Marion County, May 15, 1938, Steyermark, 5318, and Mechlin (1973) reports finding it at Lover's Leap.
On May 10, 1982, I had the fortunate opportunity to view the plants in flower elsewhere under leadership of Jim Shaw. Shaw had in previous years led members of the Webster Groves Nature Study Society botany group for some spectacular flowering displays.

The first area we visited in Ralls county was abutting the Mississippi River floodplain, on a steep wooded N-NE facing talus slope with bluff exposures of Burlington limestone (Mississippian-age) near the summit.

A large cut in part of the bluff side allowed for a parking space. Upon exiting the auto we noticed several robust specimens of Sambucus pubens. Here plants grew on rock slide rubble amidst an area which has suffered from littering. The plants are well established, but careless removal of the litter or excavation for highway fill could easily eliminate them.

Nearly two-thirds of the way up the slope we encountered great numbers of D. amethystinum on and adjacent to an outcrop of Burlington limestone. Plants grew on the shaded uppermost ledges, on loose talus both below and along slopes above the outcrop.

Lilac, orchid-pink, and even white flowers colored the slope, afew flowers showing a tendency to lighten in color at the base of the petals. This was often highlighted by a brilliant contrasting yellow ring above the anthers.

White flowers are recognized as a distinct form, D. amethystinum f. margaritaceum Fassett. In Wisconsin, Fassett (1944) notes aloinos as very rare. Steyermark first recorded forma margaritaceum in Missouri from Cole, Osage, and Dallas counties (1953).

It is interesting to note that D. amethystinum occurred on slopes dominated by a young secondary successional forest of Juniperus virginiana and Acer saccharum. The hillside bore traces of an old roadbed and past timber cutting. The immediate environment of the plants is basically dry-mesic and plants are absent from lush mesic herbaceous growth along the lower slope - probably due to the competition. It would be interesting to study the three habitats (ledges, slopes above the ledges, and below the ledges) to ascertain whether plants on the upper slope are of recent invasion from adjoining lower ledges.

The site visited represents the second of two (see above) harboring D. amethystinum, identified by Mechlin (1973) in an eight county natural area inventory in northeast Missouri. Shaw reported to me that there are four extant sites in Marion County for this rare Shooting Star.

While conducting fieldwork in 1981 for a natural area inventory along the Mississippi River, I checked three areas in Ralls County and ten in Pike for D. amethystinum. All were forested N-NE facing slopes along the river with exposures of Burlington limestone; but no plants were located. According to Shaw, no populations are known to him to occur in these counties south of Hannibal along the Mississippi River. This is intriguing as Steyermark (1953 & 1963) records populations in Cole, Osage, and Dallas counties, all south of the Missouri River and widely disjunct from Hannibal. In addition, Ugent et al (1982) has recorded the plant from numerous localities in Illinois, bordering the Mississippi River, all south of Hannibal, Missouri.

The presence of Dodecatheon amethystinum, Aralia nudicaulis, Sambucus pubens, and numerous Ozarkian species (Steyermark 1940, 1942, 1951, 1955, & 1963) from portions of Marion,

Ralls, Pike, and Lincoln counties have earned the area title as a Driftless Region. Even more fascinating is a specimen of Berberis canadensis from MBG labeled: dry rocky slopes, north of Hannibal, May 13, 1916, J. Davis, 1209. These botanical records coupled with seven Ozarkian herpetofaunal range extensions (Schuette, 1979) into the region, seem to strengthen argument of the region as having possibly escaped glaciation.

After visiting select areas in Missouri we crossed the Mississippi to a refugium in Adams County, Illinois in search of Amethyst Shooting Star. Here we ventured up a clear flowing gravel bottom stream draining rugged hills along the Mississippi River. Soon we were surrounded by canyon walls. All along the bluffs and ledges a myriad of Shooting Stars were draped before our eyes. While walking along the bluff top I noticed the lack of Shooting Stars on the grazed side of a fenceline. Apparently the plants are sensitive to grazing pressure.

Upon close field examination of the Illinois flowering material, some striking differences from Missouri specimens became apparent. Rather than the corolla lobes being reflexed, numerous specimens exhibited lobes twisted like corkscrews,with the tips recurved toward the androecial tube. Secondly, the flowers had a distinct fragrance reminiscent of grape juice, a character Shaw claimed unique to the Illinois populations.

Whether the Illinois population warrants special taxonomic status needs further detailed study. Based on geologic evidence it is quite reasonable to envision possible allopatric speciation (geographic isolation). It is well known that the ancient Mississippi River was smaller north of St. Louis. Before glaciation, its present headwaters drained northward, flowing east and south through central Illinois (Teller, 1973). Thus, the Lincoln Hills (Driftless Region) of Illinois and Missouri were less geographically separated than presently.

The present-day course of the Mississippi between Clinton, Iowa, and where the Illinois River joins it above St. Louis, appears to have been established as a result of glacial blockage of the earlier route (Thornbury, 1969). Shaffer (1952) has presented evidence to indicate that this diversion of the river from its former route through Illinois was effected during the Tazewell substage of the Wisconsinan glaciation. If so the two populations of D. amethystinum could have been isolated for 10-13,000 years before the

present. But today all we can do is speculate on the distribution and differences manifested in the populations. After all, this is what makes botany so exciting!

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HELIANTHUS ROTA-PLASTICUS, A New Species ?

To The Editor:

Although, Powers, Powers and King (1) have reported that Helianthus rota-plasticus is a new species, I believe it is possible that H. rota-plasticus belongs in the genus Vinylensis described earlier by Lissant and Lissant (2) and that H. rota-plasticus will be found to be a varietal form of an existing species.

Chemical analysis (3) has been used for the taxonomic designation of some species which were originally incorrectly assigned. In this instance, chemical analysis of collected examples of H. rota-plasticus would be an invaluable aid in determining if H. rota-plasticus belonged in the genus Vinylensis and hence should properly be named Vinylensis helianthus var. rota.

It is quite possible that the chemical composition of H. rota-plasticus may differ slightly from that of members of the genus Vinylensis already analyzed, but I doubt if the difference would be of such magnitude as to warrant the creation of another genus.

I am certain that the chemical composition of Helianthus rota-plasticus is markedly different from that of other members of the genus Helianthus. I predict that one would find in an analysis of the chemical elements present in H. rota-plasticus little or no nitrogen. This would be contrary to results of a similar analysis of members of the genus Helianthus.

Sincerely,

Donald J. Siehl

1) Powers, J., Powers, M. and King, C. C., "Helianthus rota-plasticus, A New Species", reprinted in Missouriensis 4(2), 44 (1982).

2) Lissant, E. and Lissant, K., Missouri Botanical Garden Bulletin, reprinted as "Widespread Genus is Described by Midwesterners", Sunday New York Times Garden Section (1968-1969).

3) cf any publication on biochemical plant systematics, i.e., Smith, P. M. (1976) Chemotaxonomy of Plants, Edward Arnold Press, London.

From the Editor:

Since the Missouri Native Plant Society has undertaken the updating of Steyermark's monumental work, it is essential that we have complete and correct information about each plant recognized as growing (?) in the state. It would be enormously helpful to all concerned if you would care (and dare!) to undertake a chemical analysis of the plant; obviously a book on plant chemotaxonomy published in London would be of little avail in this instance, since both Helianthus and, surely, Vinylensis are strictly American genera.

In any care, I am delighted that you have brought to my attention the possibility that we have here an infringement of the nomenclatural rule of priority, and I will see that your notice is put before our membership in the next issue of Missouriensis.

And Another Contribution:

Having grown the subspecies H.p.mendax for years, I would like to add two important points:

1) The seeds must be planted on February 30 (not later)
and
2) Seeds must have been soaked for at least one week in Gin and Tonic (or any other giggle-water!).

Sincerely,

Iama Grower

P.S. Do not look for fingerprints - I am wearing gloves.

THALIA DEALBATA Roscoe

IN BUTLER COUNTY, MISSOURI

Tom Heineke

Memphis District, Corps of Engineers
Memphis, TN 38103

In early August 1982, a rather large population of Thalia dealbata (Powdery Thalia) was observed in a roadside ditch south of Poplar Bluff, Missouri. This species is considered endangered by the state of Missouri (Nordstrom et al., 1977). Although this Butler County colony is known to a few local botanists (Jim H. Wilson and Greg Hoss, pers. comm., 1982), no collections from this site were turned up in a search of four in-state and five out-of-state herbaria (Sherry Morgan, pers. comm., 1982).

Thalia dealbata, scattered through much of the southeastern U.S., reaches the northwestern terminus of its range in the alluvial bottomlands of the Missouri Bootheel (Steyermark, 1963). It is the only species of the almost entirely tropical Marantaceae which occurs outside the state of Florida in the continental United States (Godfrey and Wooten, 1979). It is reported from "wooded swamps" by Gleason (1963) and "drainage canals, open swamps, and natural lakes" by Steyermark (1963).

Most early records of this species in Butler County are non-specific concerning site and habitat information. The majority of the known collections (many from the 1800's and a few much later) contain site descriptions such as "swamp, Butler County" and "Poplar Bluff" (Sherry Morgan and Jim H. Wilson, pers. comm., 1982). These kinds of deficiencies clearly underline the need for comprehensive site-specific data for all field-collected plant material.

The Butler County population is located on the east side of Missouri Highway 53, approximately 5.0 miles north of the Black River bridge on that highway. It was found in full anthesis, growing in shallow, clear water with a coarse sandy substrate. Most of the population is concentrated on the field-side of the ditch (highway maintenance?). It grows at almost the complete exclusion of other species in the main portion of the colony. Within the deeper water of the ditch and in areas where the concentration of individuals is low, major associated species include Rhynchospora corniculata, Ludwigia peploides, Carex lupuliformis and Ceratophyllum demersum. The majority of the estimated 750-1,000 individuals occupy a strip of approximately 100-150 square meters.

Three other sites are known for this taxon in Butler County (Sherry Morgan, pers. comm., 1982). The first, a rather extensive population, grows on both sides of U.S. Highway 60, beginning about 4.5 miles east of Poplar Bluff and continuing for several miles eastward toward Fisk.

When observed by the author in late August, 1982, most of the population had been reduced to stubble by a highway moving crew. The remaining, widely scattered individuals were generally depauperate. A high percentage of ruderal species intermix with the Thalia population throughout its length at this site.

The last two known populations for Powdery Thalia in Butler County can be found southwest of Neelyville on U.S. Highway 67. Both colonies occupy a wet roadside ditch on the west side of the road, one approximately .75 miles, and the other about 3.25 miles southwest of Neelyville. The general condition of the plants at these sites is unknown to the author.

A clear need for better management of this taxon can be seen in the U.S. Highway 60 population. Minimally a moratorium on roadside mowing in the area of the known sites would be helpful. The fact that all of the reported subject sites in Butler County are on Federal or State owned rights-of-way should facilitate any management measures which might be

undertaken. If no attempt is made to protect these populations, this endangered species is likely to undergo further decline in the state; and the Lowlands Section of the Mississippi Lowlands Division (Thom & Wilson, 1980), an already floristically impoverished portion of Missouri, would be threatened with the loss of one of the most elegant and conspicuous members of its rare flora.

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NEW VARIETY OF ELDERBERRY

A VARIETY OF COMMON ELDERBERRY - NEW TO MISSOURI

David Castaner
The Herbarium
Central Missouri State Univ.
Warrensburg, MO 64093

While on a collecting trip to Hickory County in 1975, a distinctive semi-woody shrub with dissected leaves was found. The specimen was examined and while clearly an Elderberry, it was unlike any other Elderberry previously recorded from the state. The plant was approximately 10 feet or taller with pinnately-compound leaves. The leaflets were deeply dissected quite often into subleaflets. The leaf margins were smooth, especially when compared to typical Elderberry, although towards the distal ends of the leaflets, the divisions approached the size of large teeth. The lower surface of the leaflets were almost glabrous with a few rigid almost scabrous hairs along the major veinlets (Figure 1).

Common Elderberry, Sambucus canadensis L., is recorded from every county in the state (Flora of Missouri; Steyermark, 1963). Steyermark lists var. canadensis and var. submollis Rehder. The latter variety is more pubescent on the lower leaflet surfaces than the typical variety. The leaves of these are once-pinnately compound with coarsely to finely toothed margins (Figure 2).

Figure 1. An enhanced xerograph of Castaner 4219 showing deeply dissected leaves of var. laciniata.

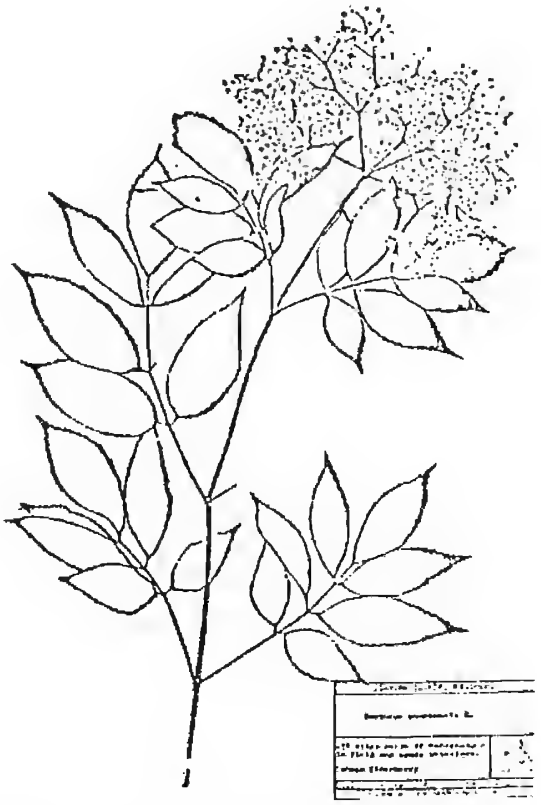

Figure 2. An enhanced xerograph of Castaner 3996 showing typical leaves of Common Elderberry.

Recently I was able to communicate with Dr. Peter J. Salamun (Director of the Herbarium, Univ. of Wisconsin at Milwaukee), a student of the Caprifoliaceae. He identified the specimen from Hickory County as Sambucus canadensis var. laciniata Gray. The variety occurs sporadically throughout the range of the species, and may not be worthy of varietal status (Salamun; pers. comm.).

I have examined several similar looking specimens in the Herbarium of the Missouri Botanical Garden from the St. Louis area. These also possess dissected leaves but appear to be either horticultural forms of Elderberry or are European escapees such as f.dissecta (Brit.) Fern of S. racemosa (syn. S. pubens) (Salamun, 1979). These should be examined!

A brief prefix to the Sambucus key in Flora of Missouri, page 1418, will permit the variety to be identified:

1. Leaflets deeply dissected to or near the midrib of the leaflets--margins smooth...ld. S. canadensis var. laciniata
1. Leaflets entire-- margins coarsely to finely toothed...a

Thus I report S. canadensis var. laciniata for the first time from Missouri. A voucher specimen, Castaner 4219, 7 July 1975, Hickory County, near Wheatland Beach along a gravel road at wood's edge, is deposited in the Herbarium of Central Missouri State Univ. (WARM), Warrensburg, Missouri.

Literature Cited

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SUGGESTIONS FROM "OUT THERE"

Mary Lehmann Bruce Farm Jamestown, MO 65046

Editor's Note:
In a letter received January 22, the author of the following article wrote:

> "I would like to raise the question of how appropriate it might be for the Missouri Native Plant Society to broaden its role to include popularizing botanical knowledge of native plants, common as well as rare ones, and as a way of building interest, to explore their economic and ecological uses:"

SUGGESTION FROM "OUT THERE"

In the latest Pomona, the quarterly publication of NAFEX (North American Fruit Explorers) one explorer, Jim Memmer, notes: "The biggest problem I've encountered is locating the people with the knowledge and interest in native plants." Many more echo his words for a variety of reasons: We may have read articles like the lead one in the February Scientific American and learn of the susceptibility of conventional monocrops to pests and unstable world food prices, and of the resulting search for hardy native species everywhere. We

may like the idea of taking part in this search, standing ready to grow "finds" --- or to forage if we're pessimists. Or maybe we haven't read a thing but are just looking at our property in city or country and wondering what native species will do better naturally and take less trouble than the exotics we've got. Or maybe we are looking at native species doing well in the wild and wondering what they are. For whatever reason, attention is turning toward plants that grow naturally in one's part of the country.

I've tried to think of some activity that would foster this growing interest in native plants. The Audubon model of bird watching occurs to one first. There the obvious difficulty crops up. Bird watching is actively something to do since birds dart off, hide in leaves, heavy binoculars swivel too late to focus. It's all a challenge. But plant watching? You identify it and, well, there it is the next time, same place. No chance Triffids, no great Birnam wood,* no excitement... except to botanists, and they only really perk up when the find might be rare. So plant watching is out. The other main naturalists' activity occurring to me was species counting. Plant counting might, like bird counting, tend to cull out not only the usual social or health enthusiasts, but the sincere beginner as well, and seems really only for those who already are experts.

Maybe a more sensible activity would be to set about preparing drawings or photographs, and descriptions which include uses and natural associations; then offer to identify plants of a given property, copy and staple together the right sheets and send these to the property owner with a suggested donation to the Missouri Native Plant Society. That way, a lot of volunteers can get in on the act, writing, copying, compiling, corresponding, drawing, photographing, and learning. With home computer data management, updating and expanding information should be relatively simple. I'm sure a number of members have home computers, as do I.

If anyone in the mid-Missouri (Columbia) area is interested, perhaps we can try out this "plant service" or a better idea, and then report how it's going to MoNPS members elsewhere.

*plant moving operations!

ANY GARDENERS OUT THERE?

Patrick DeLozier

1212 West Short
Independence, Missouri 64050

Plants are a peculiar passion of mine. I enjoy collecting and identifying, photographing, and especially, growing them. I suppose it is due to my increasing interest in botany that I grow mostly wild species now. While geographically speaking only Antarctica is not represented in my garden (or under lights), Missouri species are abundant in the flower garden outside.

Too many gardeners never reach beyond the limits of the Burpee or Wayside Gardens catalogs. How many times did Steyermark write (or perhaps, lament) "worthy of cultivation" in Flora of Missouri? On my own list of desirables, I include species from Liatris and Solidago to Stylophorum and Erysimum (and about 30 others). A few of these can be purchased from a wildflower "nursery". I use that term reluctantly because to me "nursery" implies propagation. So far as I know, none of these nurseries are anything more than digging services. I prefer to raise my own plants from seed. I collect some seed in the field for my own use and harvest from my own garden to share with gardening friends. Are there others so inclined in the Society?

The MNPS Board has authorized me to study the feasibility of a seed exchange for gardening members. I emphasize that this is intended for gardening only, not naturalizing or restoration projects. I need to hear from you if you are interested in obtaining native plant seeds and, if so, what particular species. Do you have any natives under cultivation from which you would be willing to harvest seed? Are there any non-protected areas you regularly visit from which you would harvest a small amount of seed? Please drop me a card listing what you want or what you can supply. If there is sufficient interest, I've volunteered to serve as director. I anticipate a system whereby members can obtain packets of seed at a nominal cost (20-25 cents per packet) to cover mailing costs and supplies, with any surplus going to the Society treasury. If little interest is shown, I'll so inform the Board at the June meeting.

Correction

After publication of our last issue, the following letter was received from Steve Clubine, author of "The Pillage Goes On".

To the Editor:

Almost as soon as I wrote and mailed that report about pillage of the Pale Prairie Coneflower, I discovered my error. Being a native Kansan, I am most familiar with Echinacea angustifolia and wrote the name by habit without checking my authorities. The error is entirely my fault.

The subject of whether the Prairie Coneflower found in western Missouri is actually E. pallida or E. angustifolia is still frequently discussed as the characteristics are not easy to detect.

I grudgingly agree that they may be separate species or at least varieties. One factor I have noticed is that the root of the Missouri variety does not numb the gum as thoroughly nor as rapidly as that of the Kansas variety. This could, of course, be merely a reflection of soils, soil pH or even rainfall or even my small sample.

Please publish these notes in the next issue of Missouriensis.

NOTICE OF PRAIRIE DAY

A carpet of green grass and fiery red Indian paintbrush softens your path as you walk. A flock of prairie chickens, startled by your approach, explodes from a brushy draw in a whir of wings. The smell of woodsmoke leads you to a campsite over the hill, where two buckskinners, recently returned from the Shining Mountains to the west, greet you in front of their Indian lodge. Welcome! They have furs, and are in need of fresh gunpowder. Do you have any? Will you trade?

The scenario could be from the first years of the 19th century, when traders drifted westward across the vast prairie wilderness in search of buffalo and beaver. Or it could be taking place in 1983, at an event called Prairie Day.

Prairie Day, a celebration of Missouri's native prairie, will be held on May 21 at Niawathe Prairie in Dade County, nine miles north of Lockwood. The purpose of the event is to inform Missourians about the prairie which once covered nearly a third of the state, but has now been reduced to a few scattered acres. Activities will include guided prairie walks, talks on the birds, amphibians, reptiles, and mammals of the prairie, and "living history" demonstrations. They will run from 8 a.m. to 4 p.m. There is no charge for the event.

We would like to invite you and your group to be a part of Prairie Day. If you would like to attend, please fill out the attached form or send a postcard with the same information to: Prairie Day, Missouri Department of Conservation, Post Office Box 180, Jefferson City, Missouri 65102.

PRAIRIE DAY REGISTRATION

Your Name _____ Phone Number _____

Group Name _____ Would you prefer to come in the

Your Address _____ morning? _____ or afternoon? _____

Number of Persons _____

MISSOURI BOTANICAL RECORD[3]

Edited By

Wallace R. Weber[1] & Douglas Ladd[2]

TAXON		COUNTY	DATE	COLLECTOR	HERB.
REPORTED BY WILLIAM W. DIERKER, 802 DONNELLY AVENUE, COLUMBIA, MO 65201					
a Vulpia myuros (L.) K. C. Gmel.	(90)	Webster	6-25-80	Dierker 00566	UMC IPM c
Eragrostis spectabilis (Pursh) Steud.	(110)	Howard	9-19-79	Dierker 00404	UMC IPM
Agropyron repens (L.) Beauv.	(122)	Marion	7-02-69	Dierker 00204	HLG c
Aegilops cylindrica Host	(126)	Boone	6-17-80	Dierker 00548	UMC IPM
Sphenopholis obtusata (Michx.) Scribn.	(138)	Marion	5-30-68	Dierker 00151	HLG
Leptochloa filiformis var. attenuatta (Nutt.) Steyermark & Kucera	(176)	Boone	8-20-79	Dierker 00306	UMC IPM
Eriochloa contracta A. S. Hitchc.	(197)	Saline	8-11-76	Dierker, Huckla 00648	UMC IPM
Paspalum laeve var. pilosum Scribn.	(202)	Boone	8-27-79	Dierker 00343	UMC IPM
Panicum virgatum L.	(228)	Audrain	8-04-80	Dierker 00599	UMC IPM
Setaria geniculata (Lam.) Beauv.	(237)	Boone	10-22-80	Dierker 00641	UMC IPM
Andropogon virginicus L.	(247)	Marion	10-18-81	Dierker 00703	UMC IPM
Humulus japonicus Sieb. & Zucc.	(566)	Boone	9-14-79	Dierker 00389	UMC IPM
Polygonum cespitosum Blume var. longisetum (DeBruyn) Stewart	(592)	Boone	6-03-80	Dierker 00502	UMC IPM
Cycloloma atriplicifolium (Spreng.) Coult.	(602)	Boone	8-20-79	Dierker 00322	UMC IPM
Chenopodium ambrosioides L.	(606)	Audrain	9-02-76	Dierker, Huckla 00061	UMC IPM
Chenopodium ambrosioides L.	(606)	Webster	6-25-80	Dierker 00566	UMC IPM
b Chenopodium bushianum Aellen	(614)	Boone	8-31-79	Dierker 00350 & 00351	UMC IPM
Amaranthus tamariscinus Nutt.	(621)	Lafayette	7-25-79	Dierker, Huckla 00232	UMC IPM
Amaranthus tamariscinus Nutt.	(621)	Howard	7-18-79	Dierker 00205 & 00206 & 00207	UMC IPM
Holosteum umbellatum L.	(652)	Marion	4-16-67	Dierker 00095	HLG

TAXON		COUNTY	DATE	COLLECTOR	HERB.
Clematis dioscoreifolia Lévl. & Vaniot var. dioscoreifolia	(706)	Marion	9-03-73	Dierker 00473	HLG
Cardamine douglasii (Torr.) Britt.	(748)	Marion	4-20-74	Dierker 161898	UMC
Rorippa sessiliflora (Nutt.) Hitchc.	(760)	Lafayette	6-07-79	Dierker 00647	UMC IPM
Rorippa islandica var. fernaldiana Butt. & Abbe	(760)	Howard	10-12-81	Dierker 00651	UMC IPM
Chorispora tenella (Pall.) DC.	(761)	Marion	4-07-74	Dierker 161899	UMC
Sisymbrium loeselii L.	(765)	Lafayette	5-26-81	Dierker 00675	UMC IPM
Descurainia pinnata var. brachycarpa (Richards.) Fern.	(768)	Ralls	6-01-81	Dierker 00680	UMC IPM
Pueraria lobata (Willd.) Ohwi	(956)	Howard	6-18-80	Dierker 00554 & 00555	UMC IPM
Tribulus terrestris L.	(964)	Carroll	9-01-76	Dierker, Huckla 00060	UMC IPM
Tribulus terrestris L.	(964)	Howard	8-18-79	Dierker 00303	UMC IPM
Croton glandulosus L. var. septentrionalis Muell. Arg.	(976)	Howard	10-01-80	Dierker 00636	UMC IPM
Acalypha ostryaefolia Riddell	(979)	Lafayette	7-25-79	Riekhof 00227	UMC IPM
Acalypha ostryaefolia Riddell	(979)	Marion	7-27-81	Dierker 00691	UMC IPM
Acalypha ostryaefolia Riddell	(979)	Boone	8-17-79	Dierker 00288	UMC IPM
Acalypha ostryaefolia Riddell	(979)	Howard	7-11-79	Dierker 00173	UMC IPM
Euphorbia dentata Michx.	(986)	Howard	7-11-79	Dierker 00174	UMC IPM
Euphorbia dentata Michx.	(986)	Carroll	6-04-80	Dierker 00516	UMC IPM
Euphorbia dentata f. cuphosperma (Engelm.) Fern.	(986)	Lafayette	7-25-79	Dierker, Huckla 00226	UMC IPM
Euphorbia dentata f. cuphosperma (Engelm.) Fern.	(986)	Buchanan	8-02-79	Dierker, Huckla 00252	UMC IPM
Callitriche terrestris Raf. emend. Torr.	(996)	Ralls	6-01-81	Dierker 00681	UMC IPM
Hibiscus trionum L.	(1054)	Carroll	7-30-79	Dierker 00247	UMC IPM
Oenothera speciosa Nutt.	(1105)	Chariton	5-29-79	Dierker 00645	UMC IPM
Gaura parviflora f. glabra Munz		Howard	7-14-80	Dierker 00589 & 00590	UMC IPM
Ipomoea coccinea L.	(1214)	Barton	0-05-81	Menchett 00652	UMC IPM
Ipomoea pandurata (L.) G. F. W. Mey.	(1216)	Marion	7-10-79	Dierker 00164	UMC IPM
Ipomoea lacunosa L.	(1216)	Carroll	8-24-79	Dierker, Huckla 00333	UMC IPM
Cuscuta campestris Yuncker	(1223)	Boone	9-17-79	Dierker 00392	UMC IPM
Phlox bifida var. bifida	(1228)	Marion	4-20-74	Dierker 161897	UMC
Phacelia gilioides Brand	(1237)	Carroll	5-26-79	Dierker, Huckla 00650	UMC IPM
Solanum americanum Mill.	(1312)	Howard	8-22-79	Dierker 00328	UMC IPM
Physalis heterophylla Nees var. heterophylla	(1317)	Buchanan	8-02-79	Dierker, Huckla 00255	UMC IPM

TAXON		COUNTY	DATE	COLLECTOR	HERB.
Physalis longifolia Nutt. var. longifolia	(1318)	Howard	7-11-79	Dierker 00172	UMC IPM
Physalis longifolia Nutt. var. longifolia	(1318)	Boone	9-12-79	Dierker 00387 00388	UMC IPM
Physalis longifolia Nutt. var. hispida (Waterfall) Steyerm.	(1318)	Lafayette	7-17-79	Dierker 00199	UMC IPM
[d] Chelone obliqua L. var. speciosa Pennell & Wherry	(1340)	Marion	9-27-70	Dierker 00386	HLG
[e] Symphoricarpos orbiculatus Moench f. leucocarpus (D. M. Andrews) Rehder	(1410)	Marion	10-18-81	Dierker 163820	UMC
Dipsacus laciniatus L.	(1422)	Knox	8-27-81	Dierker 00695	UMC IPM
Dipsacus laciniatus L.		Lewis	7-28-80	Huckla, Obermeyer 00595	UMC IPM
Echinocystis lobata (Michx.) T. & G.	(1428)	Saline	7-30-79	Dierker, Huckla 00245 & 00246	UMC IPM
Iva ciliata Willd.	(1536)	Carroll	8-24-79	Dierker, Huckla 00405 & 00406	UMC IPM
Helianthus annuus L.	(1568)	Howard	9-19-79	Dierker 00337	UMC IPM
Anthemis cotula L.	(1602)	Webster	6-25-80	Dierker 00567	UMC IPM
Matricaria chamomilla L. var. chamomilla	(1602)	Audrain	6-18-79	Dierker 00113	UMC IPM
Matricaria matricarioides (Less.) Porter	(1604)	Boone	5-09-80	Dierker 00448	UMC IPM
Carduus nutans L.	(1620)	Boone	6-28-79	Dierker 00137	UMC IPM
Cirsium arvense (L.) Scop. var. arvense f. arvense	(1624)	Marion	8-08-69	Dierker 00277	HLG
Sonchus asper f. glandulosus Beckh.	(1638)	Boone	6-22-79	Dierker 00128	UMC IPM

[a] Nomenclature follows that of Steyermark, 1963, with one exception, viz, Vulpia myuros in place of Festuca. It is understood that many revisions have been made, but no attempt was made to update names, e.g. with Kartesz and Kartesz, 1980.

[b] More than one collection number for a given specimen indicates that specimen is mounted on two or more sheets.

[c] UMC IPM - Small herbarium being developed for Integrated Pest Management Program on University of Missouri, Columbia campus.
UMC - University of Missouri - Columbia herbarium.
HLG - Hannibal LaGrange Coll. Herbarium, Hannibal, Missouri.

[d] Previously reported to MDC on rare and endangered species survey.

[e] New state as well as county record.

TAXON	COUNTY	DATE	COLLECTOR	HERB.
REPORTED BY PAUL L. REDFEARN, DEPT. OF BIOLOGY, SOUTHWEST MO. STATE UNIVERSITY SPRINGFIELD, MO 65804				
Typha angustifolia L.	Cole	6/21/78	Maupin (383)	SMS
	Dent	6/15/75	Maupin (1144)	SMS
	Greene	6/13/70	Pyrah (4020)	SMS
Typha glauca Gord.	Dent	6/15/75	Maupin (1143)	SMS
Typha latifolia L. f. latifolia	Barry	8/8/78	Tisse (335)	SMS
Zannichellia palustris L.	Lawrence	7/9/79	Breyfogle (203)	SMS
Sparganium androcladium (Engel.) Morong	Dent	9/13/75	Redfearn (30941)	SMS
	Reynolds	6/28/75	Nelson	SMS
Potamogeton crispus L.	Camden	6/23/75	Redfearn (10522)	SMS
Potamogeton nodosus Poir.	Douglas	7/16/79	Pyrah (4057)	SMS
	Wright	6/13/61	Redfearn (8226)	SMS
Potamogeton pectinatus L.	Douglas	7/16/79	Pyrah (4032)	SMS
	Greene	7/23/79	Pyrah (4059)	SMS
	Webster	6/25/79	Pyrah (4026)	SMS
Najas gracillima (A.Br.) Magnus	Webster	7/20/79	Pyrah (4067)	SMS
Alisma plantago-aquatica L.	Barry	7/7/79	Hornberger (520)	SMS
	Madison	7/29/64	Eggers (1122)	SMS
Echinodorus cordifolius (L.) Griseb.	Newton	7/23/79	Pyrah (4053)	SMS
Echinodorus tenellus (Mart.) Buch.	Polk	6/22/75	Breyfogle (268)	SMS
Sagittaria latifolia Willd. var. latifolia f. latifolia	Shannon	10/12/69	Redfearn (2075)	SMS
S. montevidensis Cham. & Schl. subsp. calycina (Engelm.) Bogin.	Shannon	7/9/70	Witherspoon (653)	SMS
Elodea nuttalii (Planch.) St. John	Barry	5/16/59	Redfearn (4210)	SMS
	Webster	7/31/70	Whitworth	SMS
Elodea canadensis Rich.	Oregon	2/26/70	Redfearn (26628)	SMS
Vallisneria americana Michx.	Greene	6/23/70	Pyrah (4057)	SMS
	Oregon	2/20/70	Redfearn (26644)	SMS
	Ozark	6/25/70	Pyrah (4041)	SMS
REPORTED BY ARTHUR CHRIST, 3458A WATSON RD., ST. LOUIS, MO. 63139				
Isotria verticillata	Stoddard	8/25/70	Christ 50-5-1 (Photo)	MO
REPORTED BY ROBERT HANSMAN, GEOLOGICAL SURVEY, P.O. BOX 250, ROLLA, MO 65401				
Corallorhiza odontorhiza (Willd.) Nutt. f. odontorhiza	Phelps	11/15/82	Hansman	SMS

[1]Dept. of Biology, Southwest Mo. State University, Springfield, MO 65802 (Editor);
[2]Bennett Spring State Park, Brice Route, Lebanon, MO 65536 (Associate Editor).
[3]The official register for the update of state and county records since Steyermark, 1963, and Henderson, 1980. All contributors should follow the format established by the Inventory Committee in Missouriensis 3(3): 18-20, and contributions should be sent to the editor of the MO BOT RECORD for publication. The number in parenthesis after each taxon indicates page number in Steyermark.

NOTICE OF MONPS SPRING MEETING

MISSOURI NATIVE PLANT SOCIETY

THE SPRING MEETING OF THE MISSOURI NATIVE PLANT SOCIETY WE BE ON APRIL 23, 1983, AT ALLEY SPRINGS CAMPGROUND, OZARK NATIONAL SCENIC RIVERWAYS, CA. SEVEN MILES WEST OF EMINENCE ON MO 106. GROUP CAMPING FACILITIES HAVE BEEN RESERVED FOR UP TO 45 PERSONS ON A FIRST COME BASIS. ADDITIONAL CAMPING FACILITIES ARE AVAILABLE AT THE CAMPGROUND ON A FIRST SERVE BASIS. THERE ARE SOME MOTELS AVAILABLE NEARBY AND AT EMINENCE.

THE PROGRAM WILL CONSIST OF FIELD TRIPS LISTED ON THE RESERVATION FORM BELOW. A BOARD MEETING WILL BE HELD ON FRIDAY EVENING, APRIL 22, AT 8:30 P.M.

RESERVATION FORM

NAME_____

ADDRESS_____

I WOULD LIKE TO PARTICIPATE IN THE FOLLOWING FIELD TRIPS
(Select up to two first choices & two second choices)

	9:00 A.M.	1:30 P.M.
GRAVEL BAR SUCCESSION (GRANT PYRAH)	____	____
VEGETATION OF SHUT-INS (PAUL NELSON & DOUGLAS LADD)	____	____
SPRING WILD FLOWERS (WALLACE WEBER)	____	____
FOREST TREES (CARL HAUSER)	____	____
UPLAND SUCCESSION (PAUL REDFEARN)	____	____

PLEASE MAIL TO PAUL REDFEARN, BOX 148, BIOLOGY DEPARTMENT, SOUTHWEST MISSOURI STATE UNIVERSITY, SPRINGFIELD, MO 65804-0095, BY APRIL 15, 1983.